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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,104	09/17/2003	William Louis Brodsky	END920000162US3 (IEN-10-5	6149

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EXAMINER	
NGUYEN, PHUONGCHI T	

ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/665,104	BRODSKY, WILLIAM LOUIS	
	Examiner	Art Unit	
	Phuongchi Nguyen	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *16 and 17* is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☒ Claim(s) *14 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 9/17/03
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 7-9 are objected to because of the following informalities: please spell out the numbers "2" and "4" in claims 7-9, lines 1-3. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Rathburn (US6178629B1).

In regard to claim 1, Rathburn discloses a sub-assembly comprising an electronic module (52) having a generally planar surface and an interposer (44) having a generally planar surface against which the electronic module (52) is clamped (adjacent 80) (see figure 2A), the improvement comprising limit means (80) to restrict the relative movement of the module (52) with respect to the interposer (44) when the subassembly is subject to shock and/or vibration (figures 2A, 3).

In regard to claim 2, Rathburn discloses the subassembly wherein the limit means (80) serves to limit relative sliding movement along the x and y axis parallel to the planar surfaces (figure 3).

In regard to claim 3, Rathburn discloses the subassembly wherein the limit means (80) comprises restraints on two contiguous sides of the interposer (44).

In regard to claim 6, Rathburn discloses the subassembly wherein the module is composed of a rigid material selected from the group consisting of ceramics (column 6, lines 1-2).

In regard to claim 7, Rathburn discloses the subassembly wherein the module (52) has four sides.

4. Claims 1, 4, 5, 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Rathburn (US6178629B1).

In regard to claim 1, (the embodiment of figure 22) Rathburn discloses a sub-assembly (404) comprising an electronic module (414) having a generally planar surface and an interposer (420) having a generally planar surface against which the electronic module (414) is clamped (see figure 22), the improvement comprising limit means (of 402) to restrict the relative movement of the module (414) with respect to the interposer (420) when the subassembly is subject to shock and/or vibration (figure 22).

In regard to claim 4, Rathburn discloses the subassembly wherein the limit means (of 402) serves to limit the relative movement along the z-axis orthogonal to the planar surfaces (engaged surface of 408) of the module (414) and the interposer (420) (Figure 22).

In regard to claim 5, Rathburn discloses the subassembly wherein the limit means (of 402) comprises at least two stops (engaged surface of 402 to limit movement of the bottom surface of 408) that serve to limit rocking movement of the module (414) with respect to the interposer (420) due to lack of planarity of the two mating surfaces .

In regard to claim 7, Rathburn discloses the sub-assembly (404) wherein the module (414) has four sides (figure 23).

In regard to claim 8, Rathburn discloses the sub-assembly (404) wherein the limit means (of 402) comprises raised edges (402) extending at right angles to the generally planar surface of the interposer (420), the raised edges (402) surrounding the four sides of the module.

In regard to claim 9, Rathburn discloses the sub-assembly (404) wherein the interposer (420) has two contiguous edges having edge restraints (corners) positioned to contact two sides of the module (414) and the other two edges are interconnected to the two other sides of the module (420) (figure 23).

In regard to claim 10, Rathburn discloses the sub-assembly (404) comprising the module has the interposer (420) further includes two spaced-apart stops (472) projecting from the interposer (420) toward the surface of the module (414), the combined height of the stops (472) being at least equal to the maximum rocking movement caused by the lack of planarity (space) of the module (414).

In regard to claim 11, Rathburn discloses the sub-assembly (404) wherein the two stops (472) extend at right angles to the planar surface of the interposer (420) and along two edges thereof into contact with the module (420) (figure 23).

5. Claims 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Tustaniwskyj et al (US6042388).

In regard to claim 12, Tustaniwskyj et al discloses a sub-assembly comprising an electronic module (12), the module (12) containing a generally planar surface defined by a perimeter, the surface (12b) having small irregularities (12d) that contribute to a lack of planarity (flat planar), the module (12) clamped to interposer member (16b), the interposer member (16b) including two spacedly positioned stops (ridges 16c) projecting toward the module (12), such

that the combined height of the stops (16c) (with 12+ 13+15+11) is at least equal to the maximum expected rocking movement of the planar surface (of 12) due to the irregularities (12d), whereby the stops (16c) engage the generally planar surface of the module (12) (figure 3).

In regard to claim 13, Tustaniwskyj et al discloses the sub-assembly wherein the two stops (16c) extend at right angles to the planar surface of the interposer (16b) and along two edges thereof, into contact with the module (12).

Allowable Subject Matter

6. Claims 16-17 are allowed.

7. Claims 14 –15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

In regard to claim 14, the prior-art fail to teach or suggest a subassembly comprising the module has four sides, and the interposer member contains means for controlling the sliding motion of the module relative to the interposer member, the means comprising a rectangular housing having two contiguous edges containing restraints positioned to contact two sides of the module and springs connecting the other two contiguous edges of the interposer member to the other two sides to the module.

In regard to claim 16, none of the prior art teaches or suggests a subassembly comprising the module has electronic module adapted to be electrically interconnected to a printed circuit board, an interposer between the printed circuit board and the convex surface of the module, the interposer including a compressible electrically conductive spring element for each contact pad

and its corresponding contact site, and combining with two spacedly positioned stops projecting from the interposer toward the module.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchi Nguyen whose telephone number is (571) 272-2012. The examiner can normally be reached on 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 ext 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PCN

May 12, 2005

P. Bradley

P. AUSTIN BRADLEY
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